



Coastal Protection and  
Restoration Authority of Louisiana

**State of Louisiana  
Office of Coastal Protection and  
Restoration**

**2009 Annual Inspection Report**

for

**LITTLE LAKE SHORELINE  
PROTECTION / DEDICATED  
DREDGING NEAR ROUND LAKE  
(BA-37)**

State Project Number BA-37  
Priority Project List 11

July 2009  
Terrebonne Parish

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## **I. Introduction**

The Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project is a shoreline protection and marsh creation project located in the central Barataria Basin in Lafourche Parish, Louisiana. The project area lies along the southwestern shoreline of Little Lake from Superior Canal to Plumb Point (See Appendix A).

The Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake project is co-sponsored by the National Marine Fisheries Service (NMFS) and the Louisiana Office of Coastal Protection and Restoration (OCPR). The project was authorized by Section 303(a) of Title III Public Law 4101-646, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) enacted on November 29, 1990, as amended. The project was approved on the eleventh (11<sup>th</sup>) Project Priority List.

The annual inspection of the Little Lake Shoreline Protection and Dedicated Dredging (BA-37) project typically occurs in the first quarter (March/ April) of each year. However, as a result of wide-spread ecological and structural damage caused by Hurricanes Gustav and Ike, the CWPPRA Task Force authorized emergency funding, through the OCPR, to conduct post-storm damage assessment inspections of all constructed CWPPRA projects which may have sustained damages from the hurricanes. The purpose of the damage assessment is to determine the extent of damages to existing project features if any; provide a full accounting of the necessary corrective actions to repair storm damages along with estimated project costs; and initiate contact with Federal Emergency Management Agency (FEMA) for potential storm related claims. With concurrence from the federal sponsor, NMFS, the OCPR has decided not to conduct the field investigation portion of the annual inspection in the first quarter of 2009, but rather use the field information gathered on the damage assessment field trip on October 8, 2008 to produce the 2009 Annual Inspection Report.

The property associated with the Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project is owned by Clovelly Lands, a subsidiary of General Agricultural Services, Ltd.

## **II. Inspection Purpose and Procedures**

The purpose of the annual inspection of the Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37) is to evaluate the constructed project features in order to identify any deficiencies. The inspection results are used to prepare a report detailing the condition of the project features and recommending any corrective actions considered necessary. Should it be determined that corrective actions are needed, the OCPR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, construction, and contingencies and an assessment of the urgency of such repairs (O&M Plan, 2008). The annual inspection report also contains a summary of maintenance projects which were completed since completion of constructed project features and an estimated projected budget for the upcoming three (3) years for operation, maintenance, and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A

summary of past operation and maintenance projects completed since construction of the Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project is outlined in Section IV.

As noted in the introduction of the report, the field investigation portion of the 2009 Annual Inspection will not be performed, but rather the information gathered from the damage assessment of the Little Lake Shoreline Protection/ Dedicated Dredging near Round Lake (BA-37) will be presented in this report. The damage assessment for the Little Lake project was held on October 8, 2009. In attendance were Daniel Dearmond, Brian Babin and Glen Curole from the OCPR and Cheryl Brodnax with NMFS. The damage assessment began at approximately 9:00 a.m. at Segment 1 of the rock shoreline protection in Little Lake and ended at approximately 11:45 a.m. in the Tennessee Gas Pipeline (TGP) Canal along the western border of the marsh creation area. The field trip included a visual inspection of the 24 rock dike segment of the shoreline protection, all warning signs, and the outer edges of the marsh creation area. The marsh creation area was viewed from the northern boundary along the south shoreline of Round Lake and at the southwest corner of the marsh creation area. Water elevation readings were 2.5 ft at 10:00 a.m. at the Bayou John the Fool gage and 2.2 ft at 10:30 a.m. at the gage near the camp in the TGP Canal. Photographs of project features are shown in Appendix B.

### **III. Project Description and History**

The project consisted of constructing 25,976 linear feet of shoreline protection rock dike in open water along the Little Lake shoreline and using dredged material from Little Lake to create/nourish 920 acres of marsh along the Little Lake shoreline.

The project area is characterized by open water areas and fragmented intermediate marsh with a high rate of marsh loss due to shoreline erosion, subsidence, and pipeline and oilfield access canal construction. The purpose of the project is to reduce erosion along the Little Lake shoreline, create new marsh in the open water areas, and maintain and nourish the existing, deteriorated marsh.

The principle project features include:

- Shoreline Protection – 25,976 feet of rock dike constructed in 24 segments along the shoreline. Two lifts were constructed over the entire length using DOTD Class 250-lb rock with top EL 2.5' NAVD88 (first lift to EL 1.0'), 3.5' crown width, 4:1 front slope and 2:1 back slope. The rock dike was constructed on a geotextile fabric base. Fish dips (20' openings in the dike) are located between the segments with a 2-ft thick, 40-ft wide rock scour pad constructed at each dip flush with existing bottom. A third lift was constructed along segments 10 through 24 using Corps Class R650 rock. For segments 10 through 20 the lift was placed to top EL 3.5' NAVD88, with 2.0' crown width, and 2:1 front and back slopes. Segments 21 and 22 were placed to top EL 4.0' NAVD88, with 2.0' crown width, and 2:1 front and back slopes. Segments 23 and 24 were placed to top EL 4.0' NAVD88, with 3.5' crown width, 4:1 front slope and 2:1

back slope. Galvanized steel settlement plate riser pipes were installed in each rock segment.

Segments 1 – 24: Two lifts DOTD Class 250-lb, EL 2.5' NAVD88, 3.5' crown width, 4:1 front slope and 2:1 back slope

Segments 10 – 20: Third lift Corps Class R650, EL 3.5' NAVD88, 2.0' crown width, 2:1 front and back slopes

Segments 21 and 22: Third lift Corps Class R650, EL 4.0' NAVD88, 2.0' crown width, 2:1 front and back slopes

Segments 23 and 24: Third lift Corps Class R650, EL 4.0' NAVD88, 3.5' crown width, 4:1 front slope and 2:1 back slope

- Marsh Creation/Nourishment – Approximately 920 acres was filled with dredge material cut from Little Lake with a target fill height of EL 2.1' NAVD88 (min EL 1.8' and max EL 2.4'). Actual fill elevations varied across the site; however, the average elevation (derived from the individual grid elevations) of the as-built marsh creation area was EL 2.3' NAVD88. For specific as-built elevations of marsh creation area grid points, see Project Completion Report and As-Built Drawings (2007). The in-place fill volume was computed as 3,463,089 cubic yards based on the as-built surveys. The estimated volume of material cut from the borrow area was 3,818,213 cubic yards.

Additionally, 17,000 spartina alterniflora (smooth cordgrass) plugs were planted in the marsh creation area.

The Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37) has a twenty-year (20 year) economic life which began in March 2007. Attached is the three (3) year projected budget for the project (See Appendix C).

#### **IV. Summary of Past Operation and Maintenance Projects**

Below is a summary of completed maintenance projects and operation tasks performed since completion of the Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37).

**May 2008** – Survey of marsh creation area was performed by Shaw Coastal, Inc. The marsh elevations at the grid points within the marsh creation area as well as top elevations of the 24 rock dike settlement plates were collected. This survey represents the first of the scheduled O&M surveys to be performed but is actually the second post-construction survey. The first post-construction survey was performed by Shaw Coastal, Inc. in May 2007 with remaining construction funds immediately following acceptance of the project. The actual surveying consultant costs associated with the 2008 survey was \$36,007.28.

**July 2009** – Survey of marsh creation area is currently being performed by Shaw Coastal, Inc. The marsh elevations at the grid points within the marsh creation area as well as top elevations of the 24 rock dike settlement plates will be collected. This survey represents the second of the scheduled O&M surveys to be performed but is actually the third post-construction survey. The first post-construction survey was performed by Shaw Coastal, Inc. in May 2007 with remaining construction funds immediately following acceptance of the project. The estimated surveying consultant costs associated with the 2009 survey is \$48,642.

## V. Inspection Results

### **Rock Segments 1 – 24** (Photos 1 – 23, 27, 34, Appendix B)

All rock segments were inspected by boat. During the time the rock segments were inspected, water elevations were high, approximately EL 2.5 ft NAVD88 according to the construction project tide gage at Bayou John the Fool. Using the water elevation as reference, the following rock segment elevations were observed.

Rock Segment	Approximate Observed Elevation (FT, NAVD88)	As-Built Elevations (FT, NAVD88)
Segments 4, 5, 8, and 9*	< EL 2.5	EL 2.5 – 3.0
Segments 1 – 6, 8 and 9	≈ EL 2.5	EL 2.5 – 3.0
Segments 7 and 10 – 24	≥ EL 3.0	EL 3.2 – 4.0

\* Portions of these segments are below EL 2.5 ft NAVD88 based on the tide gage readings.

It appears that all segments have experienced some amount of settlement as is expected. Clearly the segments that did not receive a third lift during construction (1 - 5, 8, and 9) are the lowest elevation segments with some portions of those below EL 2.5 ft. Check points along the rock segments will be collected during the July 2009 O&M survey to verify the rock segment elevations observed. No maintenance will be required along the rock dike at this time. The segments should continue to be monitored for settlement.

As described above, the elevations of the settlement plates were surveyed in May 2008. See Figure 1. Comparing the final construction survey elevations of the settlement plates (February 2007) to the May 2008 survey indicates an average settlement of 0.20 feet across the 24 segments. The settlements observed varied from no change to a maximum of 0.41 feet. The time between the surveys was 446 days. As per the O&M Plan, the settlement plates will continue to be surveyed annually for the first five years (along with the marsh creation area) and then in years 10 and 15. The 2009 O&M survey is currently being performed. Data from that survey will be incorporated into the next annual inspection report. And as noted above we will also obtain top of rock dike check elevations along with the settlement plates to better determine settlement since construction.

Spoil that was placed behind the rock dike segments has fully vegetated. Also, it appears from aerial photographs that the SAV (submerged aquatic vegetation) has increased behind the rock dike segments as well.

**Marsh Creation Area** (Photos 24 – 26, 28 – 33, Appendix B)

The fill material in the marsh creation area has fully vegetated. As mentioned above, a survey was performed in May 2008 of the marsh creation area grid points. A map showing the elevations for the “as-built”, 9 month post-construction (May 2007), and May 2008 surveys of the marsh creation area is shown in Figure 2. The average grid elevations for the marsh creation area surveys are shown below.

Survey	Average Grid Elevation (FT, NAVD88)
As-Built (May-Aug 2006)	2.2
Post-Construction (May 2007)	1.49
Post-Construction (May 2008)	1.40

The 2009 marsh survey is currently being performed. Data from that survey will be incorporated into the next annual inspection report.

## **VI. Conclusions and Recommendations**

Based on visual inspections of the rock dike segments and on settlement plate data, the rock dikes have experienced some settlement. Settlement is typical and anticipated for a rock dike structure on this type of foundation material. The segments that were constructed in only two lifts are the lowest elevation and will eventually need an additional lift. However, no maintenance is warranted on the shoreline protection feature at this time. The dike will continue to be inspected annually, and the settlement plates will be surveyed annually as well to track the settlement over time.

The marsh creation area appears to be completely vegetated. Surveys indicate the elevations are approaching average marsh elevation for the area. No maintenance funds have been provided for the marsh creation portion of the project other than surveying of the marsh creation area grid points. The surveys will continue to be performed annually for the first five years in order to monitor the consolidation and settlement of the fill material and the resulting elevations within the marsh creation area.

SETTLEMENT PLATES															
S.P. #	STATION	CONSTRUCTION										POST-CONSTRUCTION			
		DATE INSTALLED	ELEV. INST.	ELEV. AFTER 2nd LIFT	DATE OF 2nd LIFT ELEV.	Δ (FT) (INST. TO 2nd LIFT)	TIME (DAYS)	FINAL ELEV.	DATE OF FINAL ELEV.	Δ (FT) (2nd LIFT TO FINAL)	TIME (DAYS)	SPRING 2008 ELEV.	DATE OF SPRING 2008 ELEV.	Δ (FT) (FINAL TO SPRING 2008)	TIME (DAYS)
1	14+23	11/27/06	6.48	5.84	01/26/07	-0.64	60	5.87	02/11/07	0.03	16	5.71	05/02/08	-0.16	446
2	23+93	11/14/06	6.32	3.98	01/26/07	-2.34	73	3.95	02/11/07	-0.03	16	3.60	05/02/08	-0.36	446
3	34+22	11/09/06	7.02	5.16	01/26/07	-1.87	78	5.17	02/11/07	0.01	16	4.93	05/02/08	-0.23	446
4	44+41	11/06/06	6.96	4.63	01/26/07	-2.33	81	4.57	02/11/07	-0.05	16	4.41	05/02/08	-0.16	446
5	54+75	11/06/06	7.71	5.89	01/26/07	-1.82	81	5.90	02/11/07	0.00	16	5.66	05/02/08	-0.23	446
6	63+17	11/05/06	6.98	4.96	01/26/07	-2.03	82	4.70	02/11/07	-0.26	16	4.70	05/02/08	0.00	446
7	71+47	11/05/06	7.92	4.43	01/26/07	-3.49	82	4.42	02/11/07	0.00	16	4.08	05/02/08	-0.34	446
8	82+37	10/25/06	6.98	5.46	01/26/07	-1.52	93	5.51	02/11/07	0.05	16	5.32	05/02/08	-0.19	446
9	92+32	10/26/06	6.70	5.84	01/26/07	-0.86	92	5.84	02/11/07	0.00	16	5.82	05/02/08	-0.02	446
10	102+21	09/28/06	6.96	5.31	12/07/06	-1.65	70	5.28	02/11/07	-0.03	66	5.18	05/02/08	-0.10	446
11	112+90	09/01/06	6.40	4.37	12/07/06	-2.03	97	4.19	02/11/07	-0.18	66	3.82	05/02/08	-0.37	446
12	123+14	07/09/06	7.74	6.36	12/07/06	-1.38	151	6.16	02/11/07	-0.20	66	5.74	05/02/08	-0.41	446
13	133+25	07/06/06	7.32	3.90	09/14/06	-3.42	70	3.61	02/11/07	-0.29	150	3.24	05/02/08	-0.37	446
14	144+18	06/27/06	6.68	5.84	09/14/06	-0.84	79	5.56	02/11/07	-0.28	150	5.38	05/02/08	-0.18	446
15	154+23	06/16/06	7.02	5.43	09/14/06	-1.59	90	5.17	02/11/07	-0.26	150	4.93	05/02/08	-0.24	446
16	164+05	06/03/06	6.95	6.86	08/01/06	-0.09	59	6.10	02/11/07	-0.76	194	5.93	05/02/08	-0.17	446
17	175+51	05/21/06	7.53	6.76	08/01/06	-0.77	72	6.36	02/11/07	-0.40	194	6.27	05/02/08	-0.10	446
18	190+71	05/18/06	7.68	6.42	08/01/06	-1.26	75	5.97	02/11/07	-0.45	194	5.74	05/02/08	-0.23	446
19	203+43	05/06/06	8.51	6.78	08/01/06	-1.73	87	6.27	02/11/07	-0.51	194	6.09	05/02/08	-0.18	446
20	216+05	04/11/06	7.80	5.82	08/01/06	-1.98	112	5.65	02/11/07	-0.17	194	5.52	05/02/08	-0.13	446
21	229+62	04/05/06	7.31	5.40	08/01/06	-1.92	118	4.81	02/11/07	-0.59	194	4.65	05/02/08	-0.15	446
22	240+24	03/31/06	8.38	5.30	08/01/06	-3.09	123	4.58	02/11/07	-0.71	194	4.35	05/02/08	-0.24	446
23	250+46	03/26/06	7.64	5.50	08/01/06	-2.14	128	5.16	02/11/07	-0.34	194	4.99	05/02/08	-0.17	446
24	262+76	03/21/06	8.26	7.06	08/01/06	-1.20	133	6.71	02/11/07	-0.36	194	6.69	05/02/08	-0.02	446

Δ (FT) – Change in Elevation since previous survey in feet

TIME (DAYS) – Time Elapsed since previous survey in days

Figure 1. Rock Dike Settlement Plate Data



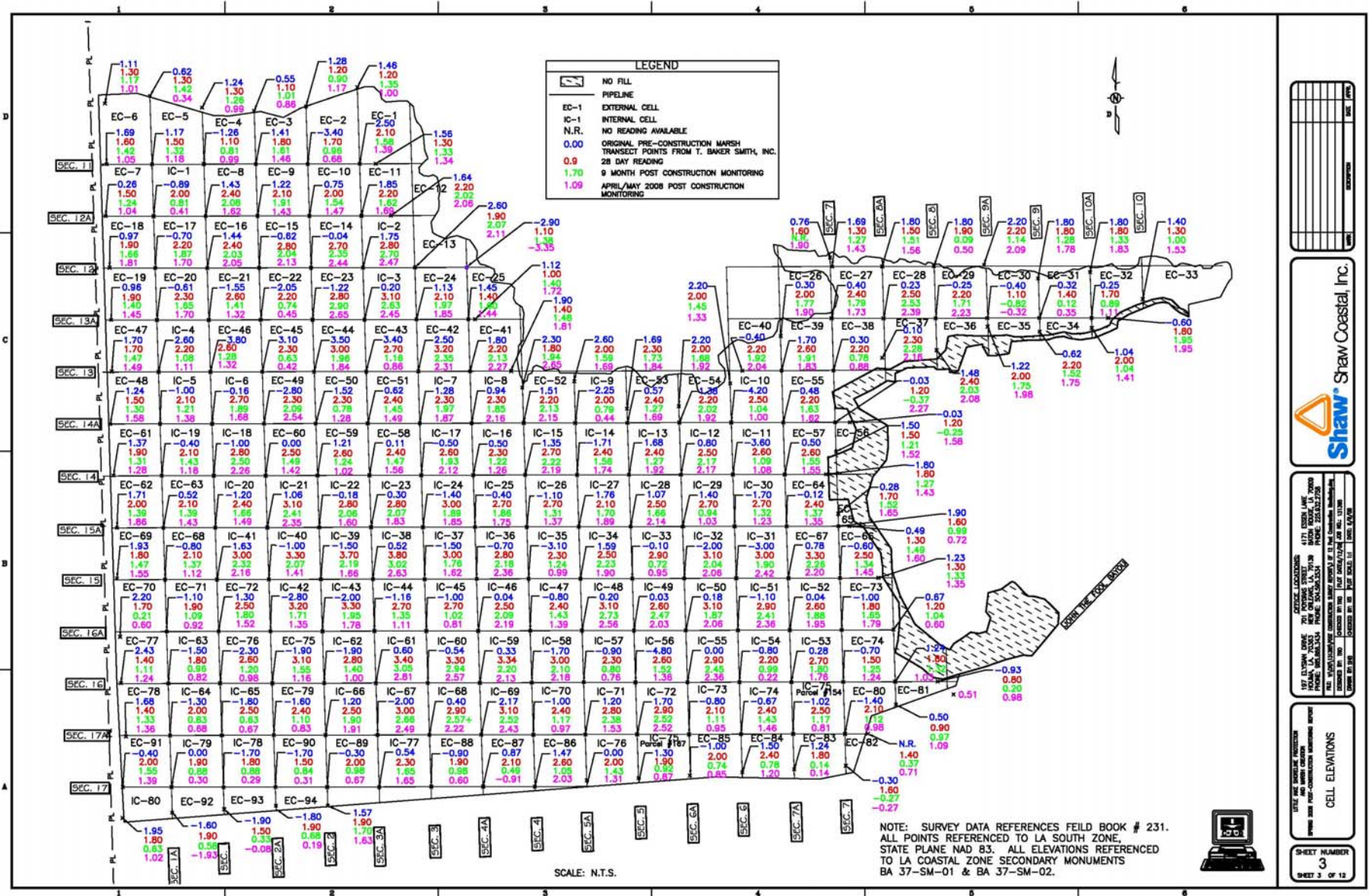


Figure 2. Marsh Creation Area Grid Survey showing Pre-Construction, As-Built (May-Aug 2006), May 2007, and May 2008 Elevations

## **Appendix A**

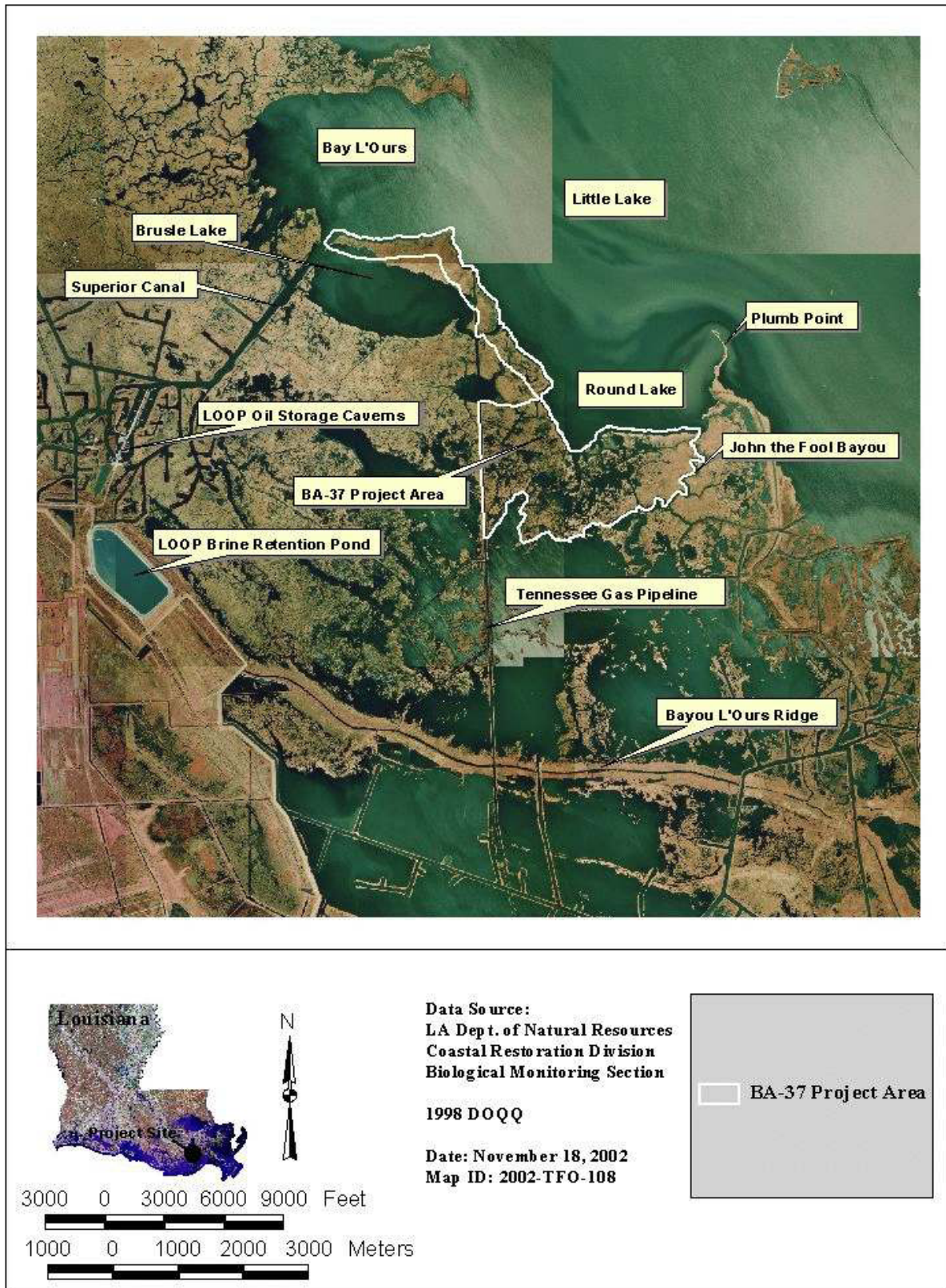
### **Project Features Map**





**Figure 3.** Vicinity Map of Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37)





**Figure 4. Location Map of Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37)**



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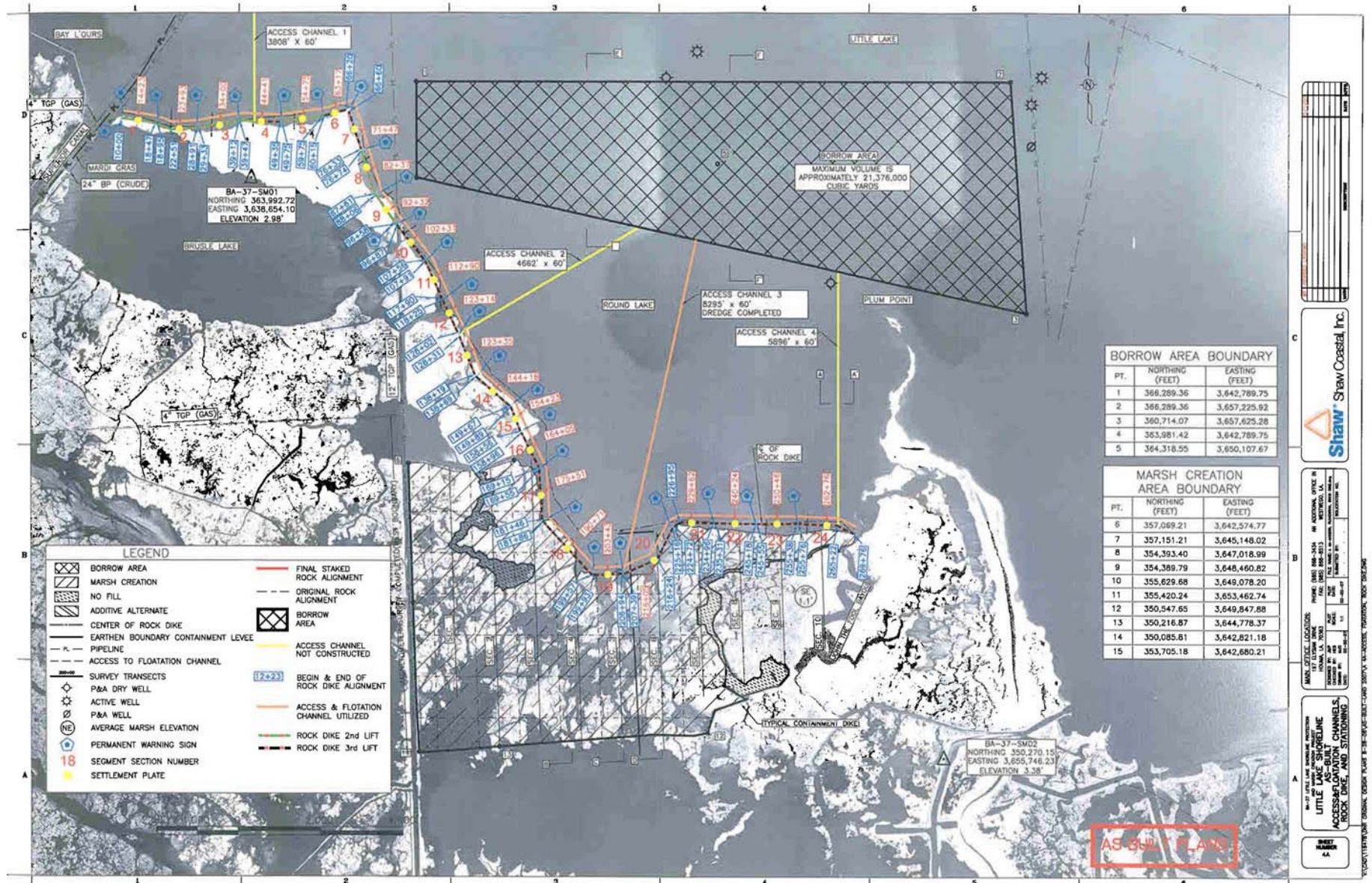


Figure 5. As-Built Project Features - Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake Project (BA-37)

## **Appendix B**

### **Photographs**



Photo 1 (0674) - Rock Segment 1. Tide Reading ~ 2.5 ft NAVD88



Photo 2 (0675) - Rock Segment 2. Tide Reading ~ 2.5 ft NAVD88



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Photo 3 (0676) - Rock Segment 3. Tide Reading ~ 2.5 ft NAVD88



Photo 4 (0677) - Rock Segment 3. Tide Reading ~ 2.5 ft NAVD88





Photo 5 (0679) - Rock Segment 4. Tide Reading ~ 2.5 ft NAVD88



Photo 6 (0680) - Rock Segments 4 and 5. Tide Reading ~ 2.5 ft NAVD88



Photo 7 (0681) - Rock Segments 5 and 6. Tide Reading ~ 2.5 ft NAVD88



Photo 8 (0682) - Rock Segment 6. Tide Reading ~ 2.5 ft NAVD88



Photo 9 (0683) - Rock Segments 6 and 7. Tide Reading ~ 2.5 ft NAVD88



Photo 10 (0684) - Rock Segment 7. Tide Reading ~ 2.5 ft NAVD88



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Photo 11 (0685) - Rock Segment 8. Tide Reading ~ 2.5 ft NAVD88



Photo 12 (0686) - Rock Segments 8 and 9. Tide Reading ~ 2.5 ft NAVD88

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Photo 13 (0687) - Rock Segment 9. Tide Reading ~ 2.5 ft NAVD88



Photo 14 (0688) - Rock Segment 9. Tide Reading ~ 2.5 ft NAVD88

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Photo 15 (0689) - Rock Segment 10. Tide Reading ~ 2.5 ft NAVD88



Photo 16 (0690) - Rock Segment 12. Tide Reading ~ 2.5 ft NAVD88





Photo 17 (0691) - Rock Segment 14. Tide Reading ~ 2.5 ft NAVD88



Photo 18 (0692) - Rock Segment 15. Tide Reading ~ 2.5 ft NAVD88

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Photo 19 (0693) - Rock Segments 15 and 16. Tide Reading ~ 2.5 ft NAVD88



Photo 20 (0694) - Rock Segment 16. Tide Reading ~ 2.5 ft NAVD88



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Photo 21 (0695) - Rock Segments 16 and 17. Tide Reading ~ 2.5 ft NAVD88



Photo 22 (0696) - Rock Segments 17 and 18. Tide Reading ~ 2.5 ft NAVD88



Photo 23 (0697) - Rock Segment 18. Tide Reading ~ 2.5 ft NAVD88



Photo 24 (0699) - Marsh creation behind Rock Segment 19. Tide Reading ~ 2.5 ft NAVD88



Photo 25 (0700) - Marsh creation behind Rock Segment 19. Tide Reading ~ 2.5 ft NAVD88



Photo 26 (0701) - Marsh creation behind Rock Segment 19. Tide Reading ~ 2.5 ft NAVD88





Photo 27 (0702) - Rock Segment 21. Tide Reading ~ 2.5 ft NAVD88



Photo 28 (0705) - Southwest corner of marsh creation area within containment borrow channel looking east. Vegetated, created marsh can be seen left and vegetated dike right.



Photo 29 (0706) - Southwest corner of marsh creation area within containment borrow channel looking west. Vegetated, created marsh can be seen right and vegetated dike left.



Photo 30 (0707) - Grade stake at southwest corner of marsh creation area within containment borrow channel.



Photo 31 (0708) - Southwest corner of marsh creation area looking northwest. Marsh creation area is densely vegetated.



Photo 32 (0709) - Southwest corner of marsh creation area looking northeast. Marsh creation area is densely vegetated.





Photo 33 (0710) - Southwest corner of marsh creation area looking north. Marsh creation area is densely vegetated.



Photo 34 (0711) - Rock Segment 1. South-facing warning sign damaged by hurricanes.

## **Appendix C**

### **Three Year Budget Projection**



**LITTLE LAKE SHORELINE PROTECTION & DEDICATED DREDGING / BA37 / PPL11**  
**Three-Year Operations & Maintenance Budgets 07/01/2009 - 06/30/2012**

<u>Project Manager</u>	<u>O &amp; M Manager</u>	<u>Federal Sponsor</u>	<u>Prepared By</u>
	Dearmond	NMFS	Dearmond

	2009/20010	2010/2011	2011/2012
<i>Maintenance Inspection</i>	\$ 5,152.00	\$ 5,317.00	\$ 5,487.00
<i>Surveys</i>	\$ 51,658.00	\$ 53,312.00	\$ 55,019.00
<i>Administration (NMFS)</i>	\$ 1,328.00	\$ 1,370.00	\$ 1,414.00

*Maintenance/Rehabilitation*

09/10 Description:

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
Sub Total - Maint. And Rehab.	\$ -

10/11 Description

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
Sub Total - Maint. And Rehab.	\$ -

11/12 Description:

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
Sub Total - Maint. And Rehab.	\$ -

	2009/20010	2010/2011	2011/2012
<b><u>Total O&amp;M Budgets</u></b>	<b>\$ 58,138.00</b>	<b>\$ 59,999.00</b>	<b>\$ 61,920.00</b>

<b><u>O&amp;M Budget (3-yr Total)</u></b>	<b>\$ 180,057.00</b>
<b><u>Unexpended O&amp;M Funds *</u></b>	<b>\$ 180,641.00</b>
<b><u>Remaining O&amp;M Budget (Projected)</u></b>	<b>\$ 584.00</b>

\* \$236,233 (presently approved O&M funding) - \$55,592 (expenditures thru June 2009) = \$180,641.

## OPERATIONS & MAINTENANCE BUDGET WORKSHEET

**Project:** **BA-37 Little Lake Shoreline Protection / Dedicated Dredging Near Round Lake**

**FY 09/10 –**

Administration (NMFS)	\$	1,328
O&M Inspection & Report	\$	5,152
Surveys – Marsh Creation & Rock Settlement Plates		\$ 51,658
Operation:	\$	0
Maintenance:	\$	0
E&D:	\$	0
Construction:	\$	0
Construction Oversight:	\$	0

### Operation and Maintenance Assumptions:

1. Administration (NMFS) - Annual Admin Costs of \$1,000 obtained from NMFS; Inflation Rate of 3.2% from Little Lake O&M Cost spreadsheet for NMFS PPL11 projects @ 2001 price level.
2. Annual Inspection and Report – Inspection and Report Cost of \$3,880 and Inflation Rate of 3.2% taken from Little Lake O&M Cost spreadsheet for NMFS PPL11 projects @ 2001 price level.
3. Surveys – Survey cost for marsh creation area and rock dike settlement plates taken from actual task amount of approximately \$47,000 (\$45,000 survey consultant cost and \$2,000 LDNR Admin costs) at 2007 price level and inflated at 3.2% annually.

**FY 10/11 –**

Administration (NMFS)	\$	1,370
O&M Inspection & Report	\$	5,317
Surveys – Marsh Creation & Rock Settlement Plates		\$ 53,312
Operation:	\$	0
Maintenance:	\$	0
E&D:	\$	0
Construction:	\$	0
Construction Oversight:	\$	0

### Operation and Maintenance Assumptions:

Same as above.

**FY 11/12 –**

Administration (NMFS)		\$	1,414
O&M Inspection & Report		\$	5,487
Surveys – Marsh Creation & Rock Settlement Plates			\$ 55,019
Operation:		\$	0
Maintenance:		\$	0
E&D:	\$	0	
Construction:	\$	0	
Construction Oversight:	\$	0	

**Operation and Maintenance Assumptions:**

Same as above.

## **Appendix D**

### **Field Inspection Notes**

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October 8, 2008

Purpose: To assess the effect  
 of the 2008 hurricanes  
 on the BA-37 Project  
 Area.

Personnel: Glen Curale, Daniel Deormond,  
 & Brian Rabion of TFO &  
 Cheryl Broadnax of NMFS

Weather: Overcast & Cool 72-74°F  
 NE Winds @ 9-10 MPH

Time line:

Depart TFO - 7:30 AM  
 Arrive Clovelly - 8:30 AM  
 Depart Clovelly - 9:00 AM  
 Arrive BA-37 - 9:20 AM  
 Depart BA-37 - 11:00 AM  
 Depart Clovelly - 11:45 AM  
 Arrive TFO - 2:00 PM

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October 8, 2008

Notes:

A) Water Level

Bayou John the Fu = 2.5 ft @ 10:00  
 TGP Canal = 2.2 ft @ 10:30  
 BA02-57 = 2.0 ft @ 11:10

B) Rock Dike -

- ① Water Level High - Some Western  
 Reaches Partially or Totally Submerged.
- ② 3rd Litt Area Still Submerged.
- ③ May have Shoreline Erosion  
 West of TGP Canal.
- ④ Area in Vicinity of Bayou John the  
 Fu looks good.
- ⑤ Marsh behind extreme western  
 part of rock dike appears to have  
 additional erosion.
- C) Marsh Creation -
- ⑥ Marsh Flooded
- ⑦ Some Wreck Debris Along TGP Canal
- ⑧ Vegetative cover very high (~90%)
- ⑨ *S. patens* & *S. alterniflora* marshes  
 show little evidence of hurricane  
 damage.
- ⑩ *S. alterniflora* marsh in the  
 SE corner of the marsh creation  
 area beginning to senesce for  
 the winter (turning brown).